

Drug called Gutta Gambeer, with Characters of two other Species. By William Hunter, Esq. Secretary to the Asiatic Society. Communicated by the President.

### Read June 16, 1807. ADBE (2 . Toll , doivere!

It has been a question, among naturalists and writers on the materia medica, whether the little cakes or lozenges called *Gutta Gambeer* be prepared from the *Mimosa Catechu*, or the produce of a different plant\*. This question, if not already determined, I am enabled to resolve by actual observation, having seen the substance made from a species of *Nauclea*, of which I beg leave to offer the following description.

1. NAUCLEA GAMBIR.

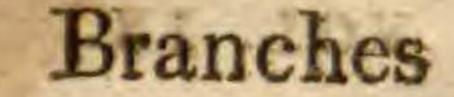
Funis uncatus. Daun Gatta Gambir. Rumph. Amb. t. 5. 63. t. 34. f. 2.

Climbing. Branches round. Leaves ovate, pointed, smooth. Stipules two, lateral, caducous. Peduncles axillary, solitary, simple, jointed.

# Stem shrubby, twining to a great height, covered with a rough brown bark.

\* Murray, Appar. Med. vol. ii. p. 549.

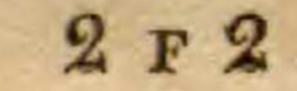
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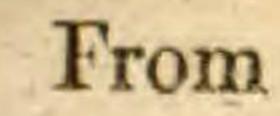


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Mr. HUNTER'S Observations on Nauclea Gambir. 219
Branches crowded, round, smooth; branchlets opposite, widely spreading.
Leaves opposite, petiolated, ovate, pointed, waving, widely spreading, smooth, below marked with transverse parallel veins.
Stipules at the bases of the branchlets and petioles, two,

lateral, parabolical, sessile, widely-spreading, smooth, it und caducous. The old the the constant of the but the Peduncles axillary, solitary, round, straight, horizontal, much shorter than the leaves; jointed near the apex and bracteated : after the flowers have fallen, the lower, joint persistent, recurved, forming a hooked spine. Bracteas four, ovate, acute, spreading, very small, caducous. Flowers aggregate, globular; composed of very numerous florets, crowded on a globular, naked, very small rechantel ceptacle. Cal. Perianthium common, none. by cutting Proper, one-leafed, oblong, incrusting the germen, persistent; mouth five-cleft, divisions lanceolate, erect. hauor a Cor. as in the Genus. Stam. Filaments five, very short. Anthers oblong. Capsule stalked, oblong, incrusted and crowned with the calyx; tapering to a point below; two-celled, twovalved; the valves adhering at the apex, splitting at blo the sides. The back had stilled at lot and a lot and a tore Seeds very numerous, oblong, very small, compressed, furnished at both ends with a membranous pappus. The flowers, when fully spread, I suppose last a very short time; for although I have frequently looked for them, I was never able to find them, whence I have been obliged to omit the description of the Pistil.





### 220 Mr. HUNTER'S Observations on Nauclea Gambir.

From the leaves of this shrub is prepared the substance called Gutta Gambeer, in two ways. The first is by boiling the leaves\*. This process was performed under my inspection, by a Chinese, at Prince of Wales's Island. Seven catties (or 93 lbs.) of the leaves, plucked clean from the stalks, were boiled in a largepot for one hour and a half, adding more water as the first wasted, till towards the end of the process, when it was inspissated to the consistence of a very thin sirup. When taken off. the fire, and allowed to cool, it became solid. It was then cut into little squares, which were dried in the sun, turning them. frequently. After one month, I weighed them, and found ten ounces and two drachms, troy weight. The Gambeer, prepared according to this process, is of a brown colour; but from some parts of the Malay coast, and of Sumatra, it is brought in little round cakes almost perfectly. white. According to Dr. CAMPBELL of Bencoolen, this is made by cutting small the leaves and young twigs, and infusing them.

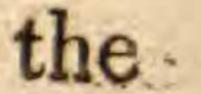
in water for some hours, when a fæcula is deposited, which is inspissated by the heat of the sun, and moulded into round cakes.

The Gambeer, when first tasted, impresses on the palate a strong sensation of bitter and astringency. But it afterwards leaves a sweetish taste, which remains a long time. From these sensible qualities, it might reasonably be expected to prove useful in medicine. And accordingly, we are told that it has been found beneficial in angina and aphthæ, as well as in diarrhœa and dysentery. The drug was infused in water,

### to which it gave the colour of the infusion of bohea teat. By

\* See Marsden's Sumatra, p. 243,—where he quotes, for a particular account of the manufacture, the second volume of the Transactions of the Batavian Society.
† Murray I. c. Seba. item. Buisson apud Degner. de Dysent. p. 297.

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Mr. HUNTER'S Observations on Nauclea Gambir. 221 the Malays it is mixed with lime, and applied externally to cuts, burns, boils, &c. But the most frequent use of it is to chew, along with the leaves of Betel, in the same manner as the Kut (or Catechu) in other parts of India.

For this purpose the finest and whitest kind is selected. The red, being strong tasted and rank, is exported to *China* and *Batavia*, where it is used for the purposes of tanning and dyeing. For the first of these uses we might suppose, from its sensible qualities, that it is well calculated; and some rough experiments which I have made on it with animal gluten, compared with those of Dr. ROXBURGH on *Kut*, evince it to be richer in *Tannin*. than that substance.

The chief places of manufacture are Malacca, Siak and Rhio; and the process of boiling is most generally practised; insomuch that the generality of manufacturers there are ignorant of there being any other. The colour and other qualities, they allege, depend on the vessel and the skill or attention of the operator. Thus an old manufacturer, with Chinese iron pots, will produce a whitish drug; whereas with a Malay iron pot its colour will be browner. The first cuttings also yield a whiter drug than the einigennes die offensigen sind weinig weinig subsequent ones. For the cultivation of this plant a rich red soil is preferred: It gives the most luxuriant crop when the rains are frequent, but does not thrive in grounds that are apt to be flooded. On this account the side of a hill is esteemed better than any other si-17735122 713 LEUS \_ 2311 778 R. M. tuation.

The plants are propagated from seed. In three months after sowing, they appear above the ground; after this they grow fast, and may be moved to the field when nine inches high. They are there planted at the distance of eight or nine feet, so that

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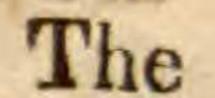
#### Mr. HUNTER's Observations on Nauclea Gambir. 222

one orlong (of eighty yards square) contains about seven hundred plants. At the end of one year from the time when they are planted in the field, a small crop of the leaves is obtained. A larger is got in eighteen months; and the third at the end of two years, when the bushes have attained their full growth. They continue in their prime, and admit of being cut twice a year, during a period of twenty or thirty years, provided care be taken to

keep the ground clean and the roots free from weeds. Their tops must be cut so as to prevent them from growing to a greater height than five or six feet.

From good ground and a garden well kept, ten peculs (of 1334 Ibs. each) of dry Gambeer are usually obtained on every orlong twice a year, or twenty peculs per annum. As it is cut every six months, and should then be boiled off, the leaves ought to be of the same age; but, from a want of means, it often happens that the year is nearly expired before the cutting is done, which should have been made at the end of six months. In this case the young leaves yield a whiter drug than the old. As to the quantity afforded by each, in proportion to the weight of leaves, I have received contradictory information, so that I conclude little attention has been paid to this circumstance. The price of the drug, at Prince of Wales's Island, varies from four to eight Spanish dollars per pecul. The finest and whitest kind is that formed into little round cakes or lozenges. It is sold by tale, at three dollars and a half for the Laxa (or 10,000), and one Laxa weighs about 40 catties. This gives 83 dollars for a Pecul.

The price of Sago at Prince of Wales's Island is generally about three dollars per pecul. Hence the manufacturer is often tempted to adulterate his Gambeer with this article, which mixes intimately, but may be detected by solution in water.



## Directions for placing the Plates of the Ninth Volume.

TAB. 1. Apion 2. Cancer floridus, &c. 3. Cancer subterraneus, &c. 4. Cancer Locusta, &c. 5. Cancer rubricatus, &c. 6. Bulla Hydatis, &c.

7. Doris longicornis, &c. 8. Amphitrite Infundibulum 9. Ursus indicus - 116 10. Variolaria multipuncta & V. globulifera - 137 11. Lecidea aromatica & L. atro-flava 140 12. Parmelia velata & P. carneo-lutea - 143 13. Parmelia Clementi & P. Borreri - 147 14. Lycium rigidum - 153 15. Lycium tetrandrum 16. Lycium cinereum 154 17. Lycium horridum 18. Insect that destroys the Wheat 159 19. Didelphis cynocephala & D. ursina 174 20. Dimorpha grandiflora 180 21. Piper quadrangulare & P. bracteatum 202 22. Nauclea Gambir - 218 23. Hookeria 277 24. 7 Notoclea 294 25. 26. Edwardsia chrysophylla, Splachnum squarrosum, &c. ] 27. Neckera sphærocarpa, &c. 322 28. Bryum heterophyllum, &c.

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Sand of Le davide has while bone ?

A Plant Speller, Jose J. H. L. S.

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